Data Management in the Digital Age

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AGENDA

- Looking back
- Framing the issues
- Elements of the solution
- Cause and effect
- Panacea versus process
- The way forward

Challenges, Questions, and Solutions

DM Definition

Data management is the structured processes and
systems that plan for, acquire, and maintain data,
consistent with requirements, throughout the data life cycle.

EIA-Standard-859 (Draft)

Data Management Functions

- Identification/Definition
  - Data Requirements, Life cycle Needs
- Preparation
  - Internal and External Data
- Control
  - Document control processes
  - Import/Export of data
  - IP, proprietary, limited access
  - User authorizations, use requests
  - Master Lists
  - Data Marking
- Dispositioning
  - DMP
  - Delivery (digital or physical)
- Archival
  - Project files, decision data, data retention

Changes are required in the approach range, and the methods for the DM functions

Looking back

- DM was mandated in the 1960's by Congress and the DoD
- Original intent
  - Eliminate redundancy of data production and storage
  - Centralize systems use
  - Acquire only specific data for deliberate, planned, and specified use

Strategic Planning, Continuing Goals, Increased Urgency

Background

- DM evolved out of DoD and Congressional concerns (circa 1960)
  - $$$ being spent on technical data and no one knew how much
  - Available $ was not being spent effectively
  - Much of what was being acquired was unnecessary, redundant, and obsolete
  - DM was an expensive resource that was not being managed wisely
  - Finally – no one knew what was being purchased, ordered, or used, anyway
- Industry complaints increased re: the number and variety of management systems being imposed on them in development and production contracts
  - Data was pushing up the cost of contracts
- Perception was that DoD was attempting to increase and maintain control of contracts by requiring even more information
  - And no one knew what the originally acquired data really was, what it supported, and what anyone was doing with it
- Perception: the necessity for some of the management systems and the supporting data was questionable and unclear
  - Some elements required and acquired the same things in different ways
  - Some DoD systems required generation of data that was already available in the contractor's own internal data systems

So What Has Changed?

The problem is more pressing

- More data than ever
- Less money than before
- Business model revolution
- Best practices rule
- Transaction and decision time is compressed
- Network centric strategies

And “technology” is not the solution

Changing Environment

1950

200

Business Relationships

Vertical Integration.....Trust-Based Relationsh

Design Responsibility

DoD Design Bureaus.....Industry Design Tea

Standards Development & Implementation

Mil-Specs, Mil-Stds.....Commercial Standa

Acquisition Cycle

12 - 15 years.....2 - 5 years

Computer Systems Development Cycle

NA.....18 - 24 Months

Weapon System Life Cycle

20 years.....50+ years

Commercial Systems Life Cycle

10 - 15 years.....2 - 5 Years

Logistics Support

DLA, DoD Depots & IMAs.....Mix of Government and Contractor Logisti

Transaction-based.....Performance-b

Yesteryear's Environment

Weapon System Acquisition Process

Build it in accordance with the government design

ABC, Inc.

SOW
System-Spec
Mil-Specs
Mil-Stds

System Design

ABC, Inc.

SOW
System-Spec
Mil-Specs
Mil-Stds

DoD Inspector

CM Manager/ QA Auditor

Tradesman

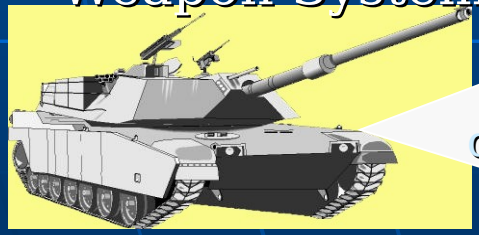
Data Manager

Data Storage and Transfer

Yesteryear's Environment, cont.

Weapon System Acquisition Process

Weapon System

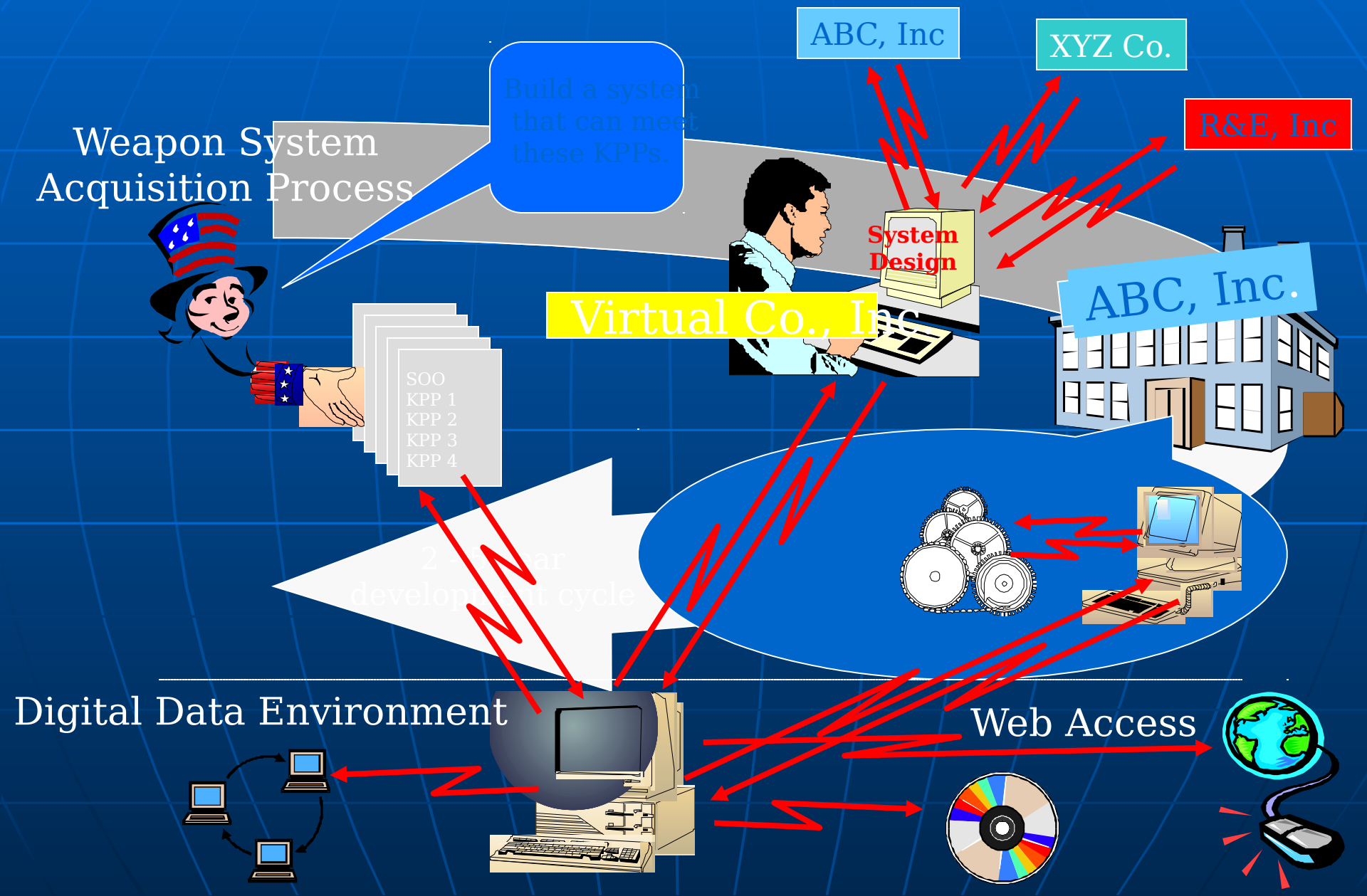


12 - 15 year development cycle

Data Environment: Paper-based

Site A Data ? Site B Data ? Site C Data

Today's Environment

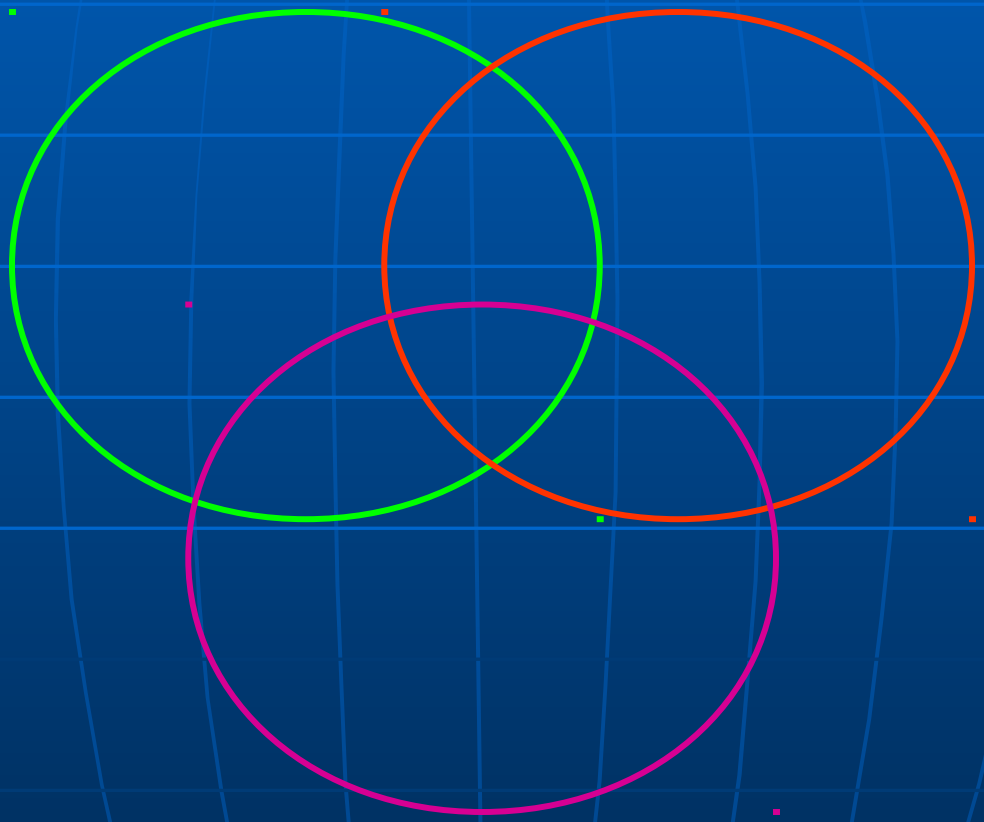


Data Management "Solution":

Three Primary Areas - Principles, Practices, and Training

Principles

- Basic tenets and values
- General



Practices

- Implementation specifics
- Organization-specific

Training

Basic and Advanced
(PM and Practitioner)

Data Management "Solution:" continued

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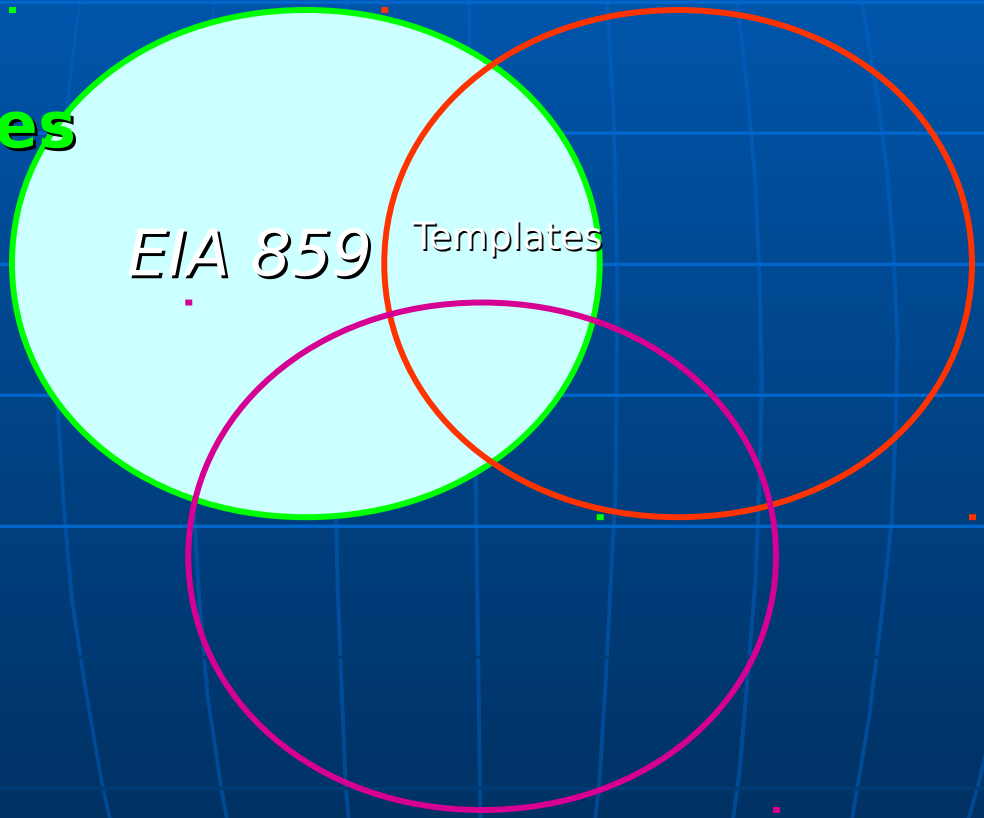

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Data Management "Solution," continued

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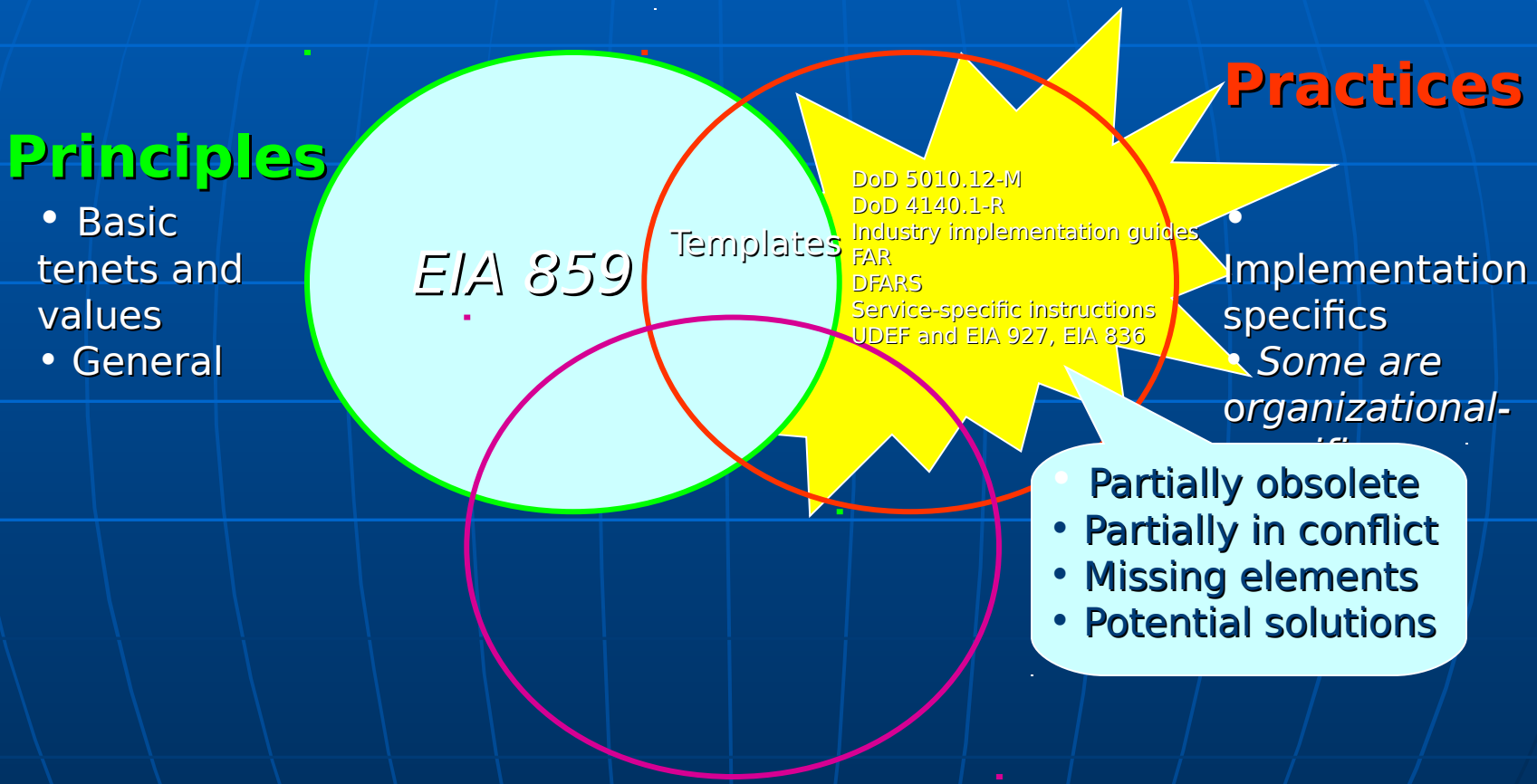

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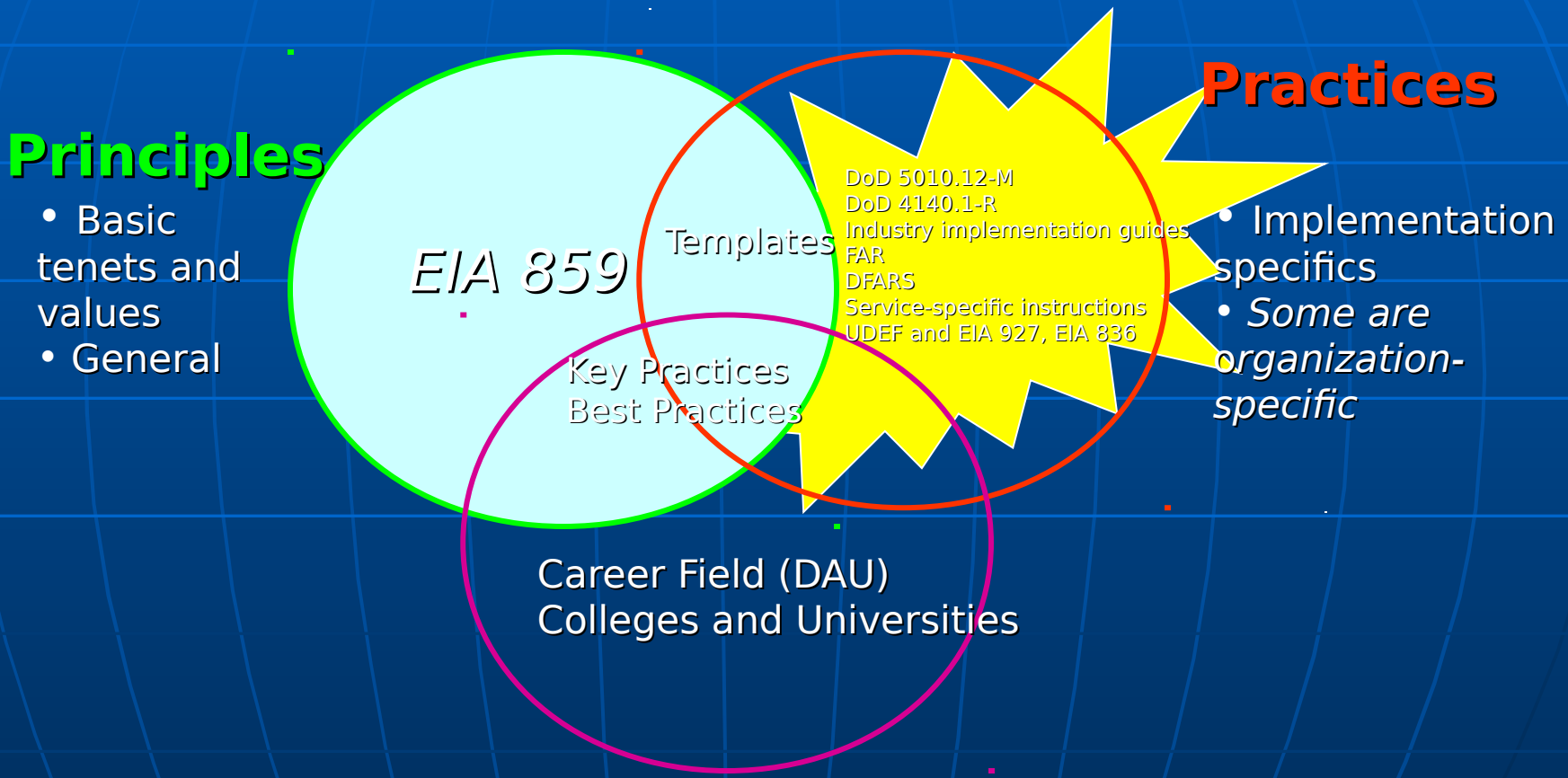

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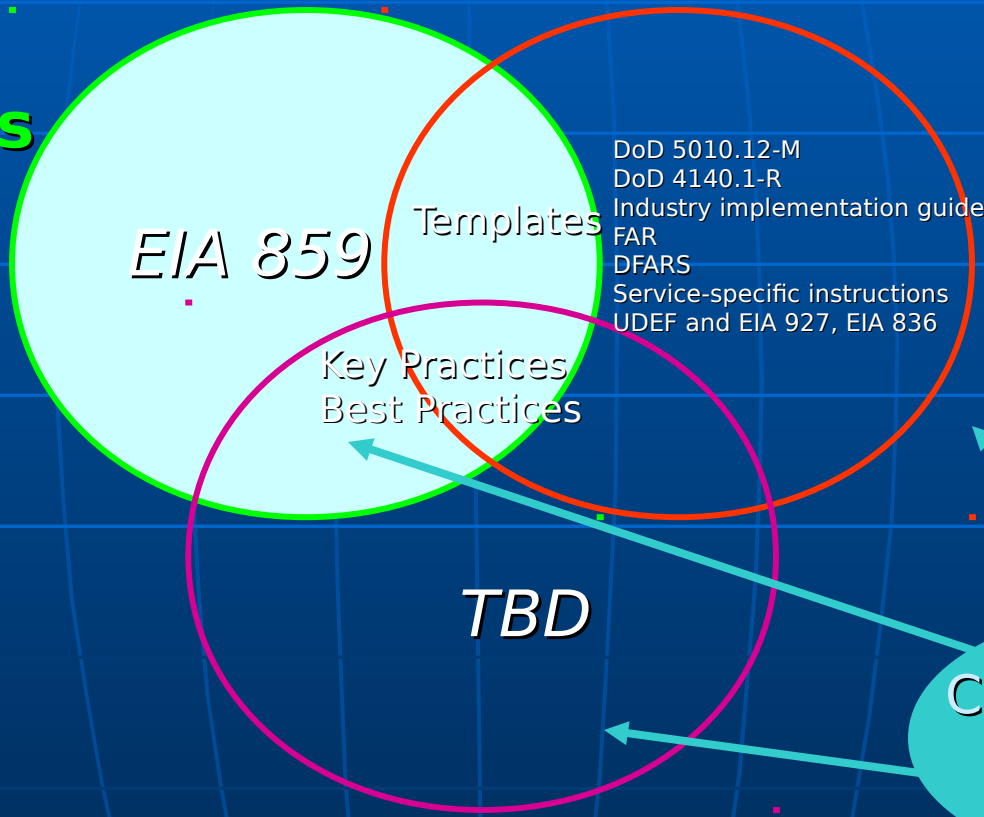

DoD 5010.12-M
DoD 4140.1-R
Industry implementation guides
FAR
DFARS
Service-specific instructions
UDEF and EIA 927, EIA 836

Practices

- Implementation specifics
- Some are organization-specific

Complete solution addresses all three areas

Training

Basic and Advanced
(PM and Practitioner)

Structuring outcomes

- Addressing challenges
- Identifying disconnects
- Creating solutions
- Establishing relationships
- Crafting an accepted and value-added role
- Building credibility and acceptance

Strategic Data Management

The way forward

- Process first! then automation
- Sequencing the “push/pull” correctly
- Creating intentional, understood outcomes
- Strategic thinking
  - Enterprise focus

Challenges for the DM Practice

- Consistency
  - Expectations and practice
- Communication
  - Internal and external
- Training
  - Practitioners and other disciplines
- …

Summary

- DM goals, need, and requirements are the same as they were in 1960
- Urgency to transition DM to the digital environment is increased
- Recognized pathway and importance for resolution
- EIA-Standard-859 is the beginning

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